

covered by the second sheet 14 so as to provide for a desired cushioning of the more standard instrument trays 40, instruments 42, and other items that are typically sterilized with a sterilization wrap 10. As shown, the area of the upper surface 38 of the second sheet 14 may be from between 18% to 84% of the area of the upper surface 36 of the first sheet 12. However, a majority of the instrument trays 40, instruments 42, and items to be wrapped may only need an upper surface 38 that is from 27% to 54% of the upper surface 36 to provide for additional cushioning of the sterilization wrap 10.

[0040] Although described as being provided to cushion the top side edges and corners of the instrument tray 40, instruments 42, and other items wrapped in addition to the bottom edges and corners, the second sheet 14 may be sized to provide cushioning to less than the aforementioned portions of the instrument trays 40, instruments 42, and other items. Generally, the area of the upper surface 38 may be at least 30% of the area of the upper surface 36 in order to cushion substantially all standard instrument trays 40, instruments 42, and other items.

[0041] The second sheet 14 may be selected to be preferably low or non-linting as the second sheet 14 will be in close proximity to or in contact with the instrument tray 40, instruments 42, or other items. This property may help to prevent extraneous matter from residing in or on the instrument tray 40, instruments 42, or other items and may prevent lint from contaminating the operating room and/or surgical site. The second sheet 14 may be made from a relatively inexpensive material so as to be disposable along with the first sheet 12.

[0042] The second sheet 14 may have an absorbent property thereto in order to minimize pooling of excess moisture and to promote more efficient drying during certain sterilization processes. It is sometimes the case that moisture remains within the wrapped sterilization wrap 10 after sterilization. Moisture may promote the growth of microorganisms and hence necessitate a repeat of the sterilization procedure.

[0043] The folding methods shown in FIGS. 4A-4E and FIGS. 5A-5E are folding processes for sterilization wraps that have been set forth by the Association for the Advancement of Medical Instrumentation. FIGS. 4A-4E show a sterilization wrap 10 that is folded into an "envelope fold" for sterilization. Here, the second sheet 14, instrument tray 40, and instruments 42 are positioned off center of the upper surface 36 of the first sheet 12. The first sheet 12 may be made of a pair of laminates 26 and 28 as previously discussed so that the instrument tray 40 and instruments 42 are folded into the sterilization wrap 10 in a "single step process." Alternatively, a pair of first sheets 12 may be placed one on top of another and folded in the manner shown in FIGS. 4A-4E. The second sheet 14, in this instance, may be attached to only one of the first sheets 12 and not the other. Upon completion of the "envelope fold" shown in FIGS. 4A-4E, tape 44 may be used in order to close the sterilization wrap 10 for subsequent sterilization.

[0044] FIGS. 5A-5E demonstrate a folding process known as a "square fold." The first sheet 12 may again be made of pair of laminates 26 and 28 as previously discussed or may be made from a single layer or laminate in which case two of the first sheets 12 must be provided in order to achieve

double wrapping of the sterilization wrap 10. If a pair of first sheets are provided, the second sheet 14 may be attached to only one of the first sheets 12. Upon folding of the instrument tray 40 and instruments 42, tape 44 is used to close the folded sterilization wrap 10 as shown in FIG. 5E.

[0045] The method of folding used and the orientation of the second sheet 14 on the first sheet 12 may dictate the size of the second sheet 14 needed for effecting the desired cushioning of the instrument tray 40, instruments 42, or other items. With respect to one orientation, both the first and second sheets 12 and 14 may be rectangular in shape and the sides of both the first and second sheets 12 and 14 may be parallel to one another. With respect to a second orientation, the second sheet 14 may be arranged as shown in FIG. 3 so that the corners of the second sheet 14 are centered along the edges of the first sheet 12 and so that an angle 32 of 45° is present. With respect to square or rectangular instruments trays 40, the coverage area of the second sheet 14 that is needed may be made smaller depending upon the particular orientation of the second sheet 14 and the wrapping method used. For example, if the envelope fold shown in FIGS. 4A-4E is used for wrapping the instrument tray 40, and if the second sheet 14 is oriented so as to have an angle 32 of 45°, the resulting area of the second sheet 14 needed to cushion the corners and upper edges of the instrument tray 40 is smaller than if the second sheet 14 had sides parallel to the sides of the first sheet 12. Conversely, if the square fold technique shown in FIGS. 5A-5E is employed, and if the second sheet 14 is oriented with sides parallel to the first sheet 12, the aforementioned cushioning may be accomplished with a lower area of the upper surface 38 of the second sheet 14 with respect to square or rectangular instrument trays 40 than if an angle 32 of 45° was present.

[0046] Sterilization may be accomplished through use of an autoclave that sterilizes through heat and steam. Additionally or alternatively, the instrument tray 40, instrument 42 or other items may be sterilized through the use of ethylene oxide and/or through the use of hydrogen peroxide gas plasma both of which are typically conducted with lower temperatures than if an autoclave were employed.

[0047] While the present invention has been described in connection with certain preferred embodiments, it is to be understood that the subject matter encompassed by way of the present invention is not to be limited to those specific embodiments. On the contrary, it is intended for the subject matter of the invention to include all alternatives, modifications and equivalents as can be included within the spirit and scope of the following claims.

What is claimed is:

1. A sterilization wrap, comprising:

a first sheet configured for providing a barrier so as to prevent at least some bacteria from passing there-through, said first sheet configured to allow sterilization gas to pass therethrough, said first sheet having a perimeter; and

a second sheet attached to said first sheet, said second sheet having a perimeter and said second sheet located on said first sheet so that said perimeter of said second sheet is contained entirely within said perimeter of said first sheet.